



Hypersensitivity Reaction to Hyaluronic Acid Filler Associated with Herpes Simplex and Streptococcus Infection, COVID-19 Vaccination and Infection

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Case Report

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Abstract

We report the case of a woman who underwent application of hyaluronic acid (HA) on lips with progression to Herpes simplex and Streptococcus infection after manipulation. Then, after Pfizer COVID-19 vaccination, the patient presented with delayed hypersensitivity reaction (DHR) in the area where HA was previously applied. Afterwards, the patient got a positive test to COVID-19 and was diagnosed with DHR again. We describe this rare association of Hypersensitivity reactions and our procedures, therefore, aesthetic professionals should be aware of this possibility and advise patients accordingly.

Keywords: Hyaluronic acid; COVID-19 vaccination; Hypersensitivity

Introduction

In 2019, according to the International Society for Aesthetic Surgery, Brazil ranked second for the number of aesthetic procedures performed. The rapid growth in the use of HA is due to: diminished social stigma surrounding their use and reversibility of injected HA using intralesional hyaluronidase enzyme. In addition, HA have favorable safety profiles with rare adverse effects. However, complications as Herpes simplex and Streptococcus infection can occur. After the COVID-19 vaccination, It has been reported patients presenting DHR in the area where HA was previously applied.

Materials

We report a case of a wealth woman who was diagnosed with delayed hypersensitivity reaction to hyaluronic acid filler because of Herpes simplex infection, Streptococcus

infection, COVID-19 vaccination and COVID-19 infection.

Results

On october 2021, 1 ml of HA was applied on lips of a healthy woman aged 42 years. During the last four years she did the same procedure with the same product. After two days, the patient felt local burning and a pustule on superior lip, she thought it was a pimple and manipulated it. She took acyclovir and corticosteroids on his own during ten days with no improvement. 20 days later, when she came into contact, she had local edema. So, hialuronidase was realized associated with more days using acyclovir. She have never had herpes.

Fourteen days after, on exam she had a nodular lesion with erythema on upper lip. Drainage was performed, the material was analyzed and we did hyaluronidase application

and red LED. Cytology of the material was positive for Herpesvirus and Culture identified *Streptococcus gordonii* and viridans. Initiated Valaciclovir, Clarithromycin, Ampicillin and 48 hours later, she had significant improvement.

On December 2021, 15 days after COVID-19 Pfizer-BioNTech vaccine, burning and local pain starts in the superior lip. Local drainage was performed and Ampicillin prescribed. End of December 2021 she got a positive test to COVID-19 and 15 days later: erythema and local edema, but no palpation of a nodular lesion. Started Valaciclovir with important improvement, then we maintain daily oral Acyclovir until now.

Conclusion

Reactivation of herpes simplex infection, especially when performing lip augmentation [1], and bacterial inoculations can occur after filler injections as a result of skin surface breakage. The patient should be examined and if fluctuance is noticed, incision and drainage are needed [2]. Although staphylococci and streptococci bacteria are the most commonly identified organisms, the expressed material should be sent for broad culture [3,4]. The patient should be started on empiric broad-spectrum antibiotics immediately and Hyaluronidase can also be used to dissolve the nidus of the infection [5].

It is still not known which individuals progress to DHR after COVID-19 vaccination, how long the application of HA is most likely to produce a reaction, and the wait time after COVID-19 vaccine for HA dermal filler. In most cases, treatment involves antihistamines, oral corticoids, and application of hyaluronidase or lisinopril [6].

Our report is important for aesthetic professionals to be

aware of this events and advise patients of this possibility.

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